

Meeting March 26 1969

## Papers

### Anorectal Tuberculosis [Abridged]

by V StC D Logan<sup>1</sup> FRCS  
(St Mark's Hospital, London)

Tuberculosis of the anorectal region is now a rare disease in Great Britain, having steadily declined over the last fifty years. Table 1 illustrates this decline from 16% to less than 1% from the figures of St Mark's Hospital, and Table 2 shows some of the figures reported from other centres. Terblanche (1964) reports that over 17% of cases of fistula in non-Europeans treated at the Groote Schuur Hospital in Capetown were tuberculous, and this suggests that tuberculous fistula may still be a common problem in many parts of the world.

**Table 1**  
Incidence of tuberculous fistula-in-ano at St Mark's Hospital

Series	Date	Total cases	Percentage incidence of tuberculous fistula
Gabriel (1921)		75	16
Gabriel (1948)	(1935-45)	1,500	11.7
Gabriel (1963)	(1951-60)	1,403	3
Present series	(1958-67)	1,410	0.85

**Table 2**  
Incidence of tuberculous fistula-in-ano in other reported series

Series	Total cases	Percentage incidence of tuberculous fistula
Grant (1923)	5,000	10
Bacon (1941)	402	1.7
Jackman & Buie (1946)	600	7-8
Bennett (1962)	129	1
Bremner (1964)	65 S. African Bantu	3-4.5
Terblanche (1964)	42 non-Europeans (Cape Town)	17

In Great Britain we are faced far more frequently with Crohn's disease of the anorectum than tuberculosis, and Morson (1968) has pointed out that in this disease tuberculosis cannot be excluded histologically, as the sarcoid reaction of Crohn's disease cannot be distinguished from noncaseating tuberculosis.

The patients treated at St Mark's Hospital for anorectal tuberculosis for the ten-year period from 1958 to the end of 1967 have been studied, in order to find out if the pattern of anorectal tuberculosis had changed, and if there were any features that helped to differentiate this disease from Crohn's disease. This period was chosen for review as since 1958 Crohn's disease of the anorectum has been well known at St Mark's Hospital (Morson & Lockhart-Mummery 1959), and critically considered in the differential diagnosis.

All cases of anorectal tuberculosis have been examined together because it was impracticable to separate them into fistulous and nonfistulous types when the exact demarcation was frequently not clear.

#### Diagnostic Criteria

For the purpose of diagnosis patients have been selected in three groups:

- (1) Those where tuberculosis is proven by the demonstration of tubercle bacilli by microscopy or culture.
- (2) Those where the support for a diagnosis of tuberculosis is very strong by histological demonstration of caseating giant cell systems typical of tuberculosis, especially when there is other clinical and radiological evidence of tuberculosis.
- (3) Those where the diagnosis of tuberculosis is probable, as a result of the demonstration of a 'sarcoid' reaction indistinguishable between Crohn's disease and tuberculosis, coupled with clinical and radiological evidence of tuberculosis elsewhere, and a satisfactory response to chemotherapy, without any development of Crohn's disease during follow up.

Using these criteria 4 patients were in Group 1. They had typical histology of tuberculosis, acid-fast bacilli were demonstrated in 2, and 2 had positive guinea-pig cultures. There were 6 patients in Group 2 who had histological sections showing caseating tubercles, and other evidence of tuberculosis. The 2 patients in Group 3 probably had tuberculosis as the histology showed a 'sarcoid'

<sup>1</sup>Present address: St James's Hospital, Leeds

reaction; no evidence of Crohn's disease could be found or has developed in four years and ten years respectively; and chest X-rays showed old tuberculosis with possible activity in one patient, and both healed without recurrence after surgery plus chemotherapy.

Repeated biopsies were made in 5 patients until tissue was examined that clearly showed caseation. This included the 2 patients with positive guinea-pig cultures.

### *Clinical Analysis*

The clinical types have been divided into two main groups, 'simple' and 'complex' after the manner of Thompson's (1962) classification of fistula (see Table 3). The simple cases had superficial tuberculosis with minimal undermining, and any communication with the anus was at a low level, while the complex cases had deep extensions of tuberculosis with complicated ramifications.

**Table 3**

Types of anorectal tuberculosis treated at St Mark's Hospital 1958-67 (12 cases)

Simple	No. of cases
Anal ulcer	2
Perianal abscess	2
<i>Complex</i>	
Extensive perianal sinuses	1
Horse-shoe high-level fistula	5
Supra-levator fistula and rectal stricture	1 ●
Supra-levator abscess discharging into rectum	1

● Died from carcinoma of rectum

All simple cases were referred by local general practitioners, while all the complex cases, except one, were referred after surgical treatment in other hospitals. This suggests that the simple type may be more common than this series would indicate and that surgeons have no difficulty in treating the simple types.

### *Presentation*

The 2 patients with anal ulcers were diagnostically different from all the others. They presented with painful anal ulceration that appeared indolent, with undermined, blue, irregular edges, i.e. they appeared typically tuberculous. Both had active extensive pulmonary tuberculosis and histological sections clearly showed tuberculous caseation and numerous acid-fast bacilli. The diagnosis was therefore straightforward.

All the remaining patients presented initially with abscess formation, and the diagnosis of tuberculosis was overlooked in all for from four months to ten years. Even when chronic disease was established tuberculosis was not diagnosed

clinically and no patient had a typical tuberculous appearance. One patient had been attending a chest clinic for observation of a suspected tuberculous focus for two years. After the first year of observation she developed an ischio-rectal abscess that became a chronic fistula, but the association between the two was not made, and the chest physician was not aware that she had a fistula. In retrospect, there were some features consistent with a diagnosis of tuberculosis. Neither perianal abscess was healed four months after onset, and after incision the edges of the abscess cavities were noted to be undermined and one had a sterile culture of pus. Another patient had a fistula for ten years and had had ten previous operations in four years at three hospitals. He had no sphincter left and was incontinent. The fistula track was shallow, but there was considerable subcutaneous undermining of the skin. It would seem that the appearance formerly associated with tuberculosis, i.e. extensive indolent fistula with a wide opening and undermined, blue, irregular edges showing a relative lack of induration is now more typical of severe Crohn's fistula.

### *Age and Sex Incidence*

There were 10 men and 2 women with anorectal tuberculosis, while in the same period 1,410 patients were treated for fistula (76% men, 24% women) (St Mark's Hospital Annual Reports 1958-67). The ages ranged from 30 to 64 years, with 6 patients under 50 and 6 patients over 50 years.

These figures may be compared with those of Gabriel (1921). The median age in his series of 9 men and 1 woman is 30 as opposed to 50, with a striking difference between those under and those over 30 years. Those under 30 had fistulae that appeared tuberculous, and they had clinical pulmonary tuberculosis, while those over 30 had fistulae that did not appear tuberculous and they did not appear to have pulmonary tuberculosis.

In the present series, none was under 30 years. The 2 patients with active pulmonary tuberculosis had ulcers that looked tuberculous. The remainder did not have active pulmonary tuberculosis, and they did not appear to have anorectal tuberculosis.

### *Association with Pulmonary Tuberculosis*

Though most of the patients did not appear to have pulmonary disease there was a strong association with radiological changes of tuberculosis (Table 4). Only 4 patients gave a history of previous tuberculosis, but routine chest X-rays showed pulmonary changes in 10 patients. Open tuberculosis was diagnosed for the first time in

**Table 4**  
Association of anorectal tuberculosis with pulmonary tuberculosis (St Mark's Hospital 1958-67)

	No. of cases
History of pulmonary tuberculosis	4
<i>Results of chest X-rays</i>	
Active open tuberculosis	2
Evidence of old or mild tuberculosis	8
Normal chest X-ray on presentation	2
Persisting normal chest X-ray	1 ●

● This patient had calcified mesenteric glands

Evidence of pulmonary tuberculosis was found in 11 out of 12 patients

one patient. Of the 2 patients with a normal chest X-ray, one three months later developed a shadow in the left apex. So out of 12 patients only one had a persisting normal chest X-ray. She had a positive Mantoux 1 : 10,000 and a positive guinea-pig culture, and her plain abdominal X-rays showed calcified mesenteric glands.

This association with pulmonary tuberculosis is important because a patient with fistula is unlikely to have tuberculosis if the chest X-ray is and remains normal. This association has been known for many years, and a point made by Allingham (1901), but more recently emphasized by Leval *et al.* (1962), is that not only should a patient with fistula have a chest X-ray, but a patient with pulmonary tuberculosis should be examined for fistula because, as in the example quoted, a patient with fistula does not complain spontaneously of anal troubles to his chest physician.

#### Treatment

Nine patients out of twelve were completely healed. Gabriel (1963) recommends the control of chest infection and surgical treatment as for a non-specific fistula. The two patients with open tuberculosis were treated in a sanatorium by chemotherapy: the ulcer healed, and has remained healed in one patient for ten years, but the other patient defaulted after four weeks' treatment.

The patients with perianal abscesses and horse-shoe fistulae were diagnosed after definitive surgery, as a result of routine histology. After diagnosis of tuberculosis, the patients were treated with antituberculous antibiotics for 3-14 months. One is still receiving treatment one year since his discharge from St Mark's Hospital, and all the others have healed.

Three patients were treated by colostomy. In two the colostomy has been closed after satisfactory healing. These patients had very extensive disease. One had multiple perianal abscesses and

sinuses, a chest X-ray showing tuberculosis, and since repeated biopsies suggested Crohn's disease or tuberculosis, he had three months chemotherapy before surgery. After excision of the perianal skin and successful skin grafting the colostomy was closed.

The second had an abscess above the levator ani muscles that burst into the rectum. It was treated by colostomy and repeated digital explorations of the abscess cavity. After seventeen months the cavity had healed and the colostomy was closed.

A third patient had an extensive fistula with rectal stenosis that followed an ischio-rectal abscess. Colostomy was performed to relieve obstruction, anticipating that this would be permanent, because of destruction of the rectum. The fistula never healed and he died from a carcinoma of the rectum five years after his initial presentation. It seems likely that carcinoma occurred concurrently with tuberculosis which was well substantiated by positive guinea-pig culture, and histology showing caseation. Excision of the rectum might have prevented the spread of carcinoma, and this should be considered when the rectum is irreparably destroyed.

#### Differential Diagnosis between Tuberculosis and Crohn's Disease

Table 5 summarizes points in the differential diagnosis between Crohn's disease of the anorectum and tuberculosis.

**Table 5**

Differential diagnosis between Crohn's disease and tuberculosis of the anorectum

	<i>Crohn's disease</i>	<i>Anorectal tuberculosis</i>
Age	Teenage upwards	Over 30 years
Sex	Equal	Commoner in men
Appearance	Nonspecific or typical	Usually nonspecific
Chest X-ray	Usually no tuberculosis	Usually tuberculosis (old) or active tuberculosis
Mantoux test	No relation	Always positive: 1:100
Gastrointestinal Crohn's disease	Sometimes	Never
Histology (routine)	(1) Sarcoid, or (2) Nonspecific	(1) Caseating tuberculosis (2) Sarcoid, or (3) Nonspecific Acid-fast bacilli very rare
Culture for tuberculosis	Negative	Negative or positive
Response to chemotherapy	No response	Improvement
Follow up	May recur locally. May develop gastrointestinal Crohn's disease	Remains healed. No gastrointestinal changes

#### REFERENCES

- Allingham W (1901) *Diseases of the Rectum*, 7th ed. London; p 74  
 Bacon H E (1941) *Anus Rectum and Sigmoid Colon*, 2nd ed. Philadelphia; p 228  
 Bennett R C (1962) *Proc. roy. Soc. Med.* 55, 756

- Bremner C G (1964) *S. Afr. J. Surg.* **12**, 147  
 Gabriel W B  
 (1921) *Proc. roy. Soc. Med.* **14**, Sect. Surg. p 156  
 (1948) *The Principles and Practice of Rectal Surgery*. 4th ed. London; p 216  
 (1963) *The Principles and Practice of Rectal Surgery*. 5th ed. London; p 319  
 Grant S G (1923) *Diseases of Rectum, Anus and Colon*. Philadelphia; 1, 393  
 Jackman R J & Buie L A  
 (1946) *J. Amer. med. Ass.* **130**, 60  
 Leval P, Balozet P & Xau P  
 (1962) *Rev. Tuberc. (Paris)* **26**, 330  
 Morson B C (1968) *Proc. roy. Soc. Med.* **61**, 79  
 Morson B C & Lockhart-Mummery H E  
 (1959) *Lancet* *ii*, 1122  
 Terblanche J (1964) *S. Afr. med. J.* **38**, 406  
 Thompson H R (1962) *Proc. roy. Soc. Med.* **55**, 754

## Clinical Features and Surgical Management of Ileocæcal Tuberculosis

by H B Byrom MB  
 and C V Mann MCh FRCS  
 (*The London Hospital, London*)

Ileocæcal tuberculosis is a rare disease and likely to become even less common in the future, particularly in developed countries with a policy of pasteurization of milk. The condition is also very difficult to diagnose as no pathognomonic clinical features have been recognized: in particular, the distinction from Crohn's disease can be almost impossible on clinical grounds alone.

However, the advent of antituberculous drug therapy has made available a powerful therapeutic agent whose value in the treatment of the condition is uncertain. Because drugs cannot be employed unless the disease can be recognized, we have thought it worth while to re-examine the clinical features in an attempt to establish diagnostic criteria.

At the same time, in order to ascertain what is at present the best treatment for ileocæcal tuberculosis, we have studied the outcome of three types of treatment used at the London Hospital in the last twenty years: (1) Antituberculous drugs alone. (2) Short circuiting ileotransverse by-pass (combined with antituberculous drugs). (3) Immediate right hemicolectomy (combined with antituberculous drugs).

### Material and Methods

The files of the London Hospital were searched for suitable cases between the years 1947 and 1967 inclusive. Patients were selected for the study only if the disease was confined to the ileocæcal

area. In addition, cases were included only if acid-fast bacilli were demonstrated in the material removed for histological examination, with one exception, a woman with a history of pulmonary tuberculosis in whom there was supporting evidence by radiological examination and who was cured by antituberculous chemotherapy (Case 1). These strict criteria were found necessary in order to be certain of excluding possible cases of Crohn's disease in the material analysed. No patient was included in whom the tuberculous process had involved other parts of the gastrointestinal tract or in whom widespread abdominal disease was present in the form of multiple peritoneal tubercles. Ten cases were found who satisfied the conditions for inclusion in the study: 9 of these had acid-fast bacilli demonstrated in the pathological material; the remaining case had strong presumptive clinical evidence. This is a similar number to other series reported from the United Kingdom (Davis 1933, Anscombe *et al.* 1967), but does not compare with the comparatively huge numbers reported from India by Ukil (1942) and Anand (1956).

The clinical features were evaluated by studying the case histories of the entire group of 10 cases. The response to treatment was analysed by dividing the cases into three groups:

*Group 1:* Treatment by antituberculous drugs only.

*Group 2:* Treatment by ileotransverse by-pass plus drugs.

*Group 3:* Treatment by right hemicolectomy plus drugs.

Patients were placed in these groups on the basis of their initial treatment; Case 2, who was treated by drugs alone at first, but was subsequently treated by ileotransverse colostomy after failure of drug therapy, appears in both Group 1 and Group 2.

### Clinical Features (Table 1)

The mean age of the group was 37 years (range 13–69 years) and over half were aged between 30 and 40 years. Seven of the ten cases were women. Many of the patients had suffered symptoms for many years; mean duration of symptoms for the group was 55 months (range five weeks to thirteen years). All patients had endured periodic episodes of colicky abdominal pains which were usually central (5 cases) but other sites included right side (2 cases), epigastrium (2 cases) and lower abdomen (1 case). In 6 of the 10 cases, diarrhoea accompanied the attacks of pain, and in the same